MSC B03036

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JOINT MESSAGEFORM [redacted] SECURITY CLASSIFICATION

CLASSIFICATION CHANGED TO [redacted]

By Authority of AFR 205-2 7 APR 1966

(TLWB)

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
	BOOK	MULTI	SINGLE			
ACTION						
INFO						

FROM:
6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

TO: SPACE SYSTEMS DIV LOSA CALIF. AND DAC VAFB
VWZD-

DOWNGRADED AT 3 YEAR INTERVALS
DECLASSIFIED AFTER 12 YEARS
DOD DIRECTIVE 5200.10

SUBJECT: 8-HOUR LAUNCH FLASH REPORT

1. A PROGRAM 622A SATELLITE VEHICLE CONSISTING OF THOR BOOSTER NO. 342 AND AGENA B ORBITAL STAGE NO. 1130 WAS LAUNCHED ON THE SECOND ATTEMPT FROM VAFB COMPLEX 75-3 PAD5 AT 1756:39.51 PDT ON 20 JULY 1962. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE AGENA SATELLITE WITH PAYLOAD IN A NEAR-POLAR-ORBIT, WAS ACCOMPLISHED. THE VTS RADAR PLOTBOARD INDICATED THE FOLLOWING APPROXIMATE INJECTION CONDITIONS: ALTITUDE, 130 STATUTE MILES; PAD REFERENCED VELOCITY, 25150 FPS; ELEVATION FLIGHT PATH ANGLE, APPROXIMATELY 0 DEG; AND A NORMAL AZIMUTH FLIGHT PATH ANGLE. THE ORBITAL PERIOD ATTAINED APPEARS TO BE NEAR-NOMINAL, BASED ON FIRST PASS ACQUISITION.

SPECIAL INSTRUCTIONS

DATE 20 TIME
MONTH Jul YEAR 62

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TYPED (or stamped) NAME AND TITLE

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PRELIMINARY VALUES OF SIGNIFICANT LAUNCH EVENTS ARE:

LIFTOFF (1756:39.51 PDT)	ZERO
STEERING INITIATED	91.96 SEC
MECO (S1)	145.65 SEC
VECO	CANNOT BE CONFIRMED
ENABLE D1 AND D2 (S2)	150.56 SEC
D1 ON	153.25 SEC
D1 OFF	156.01 SEC
D2 ON	156.38 SEC
D2 OFF	159.92 SEC
SEPARATION COMMAND (S3)	160.71 SEC
SEPARATION COMPLETE	163.13 SEC
ULLAGE ROCKET IGNITION	180.1 SEC
AGENA ENGINE IGNITION	191.1 SEC
AGENA THRUST ATTAINMENT (90 PER CENT PC)	192.4 SEC
AGENA BURNOUT (70 PER CENT PC)	431.7 SEC
AGENA LINK 2 TELEMETRY FADE	NOT APPLICABLE
VTS VERIORT RADAR FADE	434 SEC
VTS ACQUISITION BEACON FADE	481 SEC
VTS TELEMETRY DATA FADE (LINK 1)	485 SEC

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FROM:

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II. ALL CRITICAL BOOSTER SUBSYSTEMS PERFORMED ADEQUATELY SUCH THAT IN CONJUNCTION WITH GROUND GUIDANCE ALL BOOSTER PRIMARY OBJECTIVES WERE ACHIEVED. BOOSTER TELEMETRY SET NO. 1 FAILED LATE IN THE COUNTDOWN AND AFTER A HOLD FOR EVALUATION THE VEHICLE WAS LAUNCHED WITHOUT THIS TELEMETRY SET OPERATIONAL.

AGENA TELEMETRY DATA INDICATE THAT THE MAIN ENGINE THRUST WAS DECAYING (PROBABLY DUE TO PROPELLANT DEPLETION) JUST PRIOR TO THE RECEIPT OF THE GROUND GUIDANCE COMMAND FOR MECO.

GROUND GUIDANCE SYSTEM DATA INDICATE THAT BOOSTER COAST APOGEE ALTITUDE WAS 106.62 NM (NOMINAL: 106.85 NM) AND THE VELOCITY WAS 10,051 FPS (NOMINAL: 10,074 FPS).

III. ALL AGENA VEHICLE SUBSYSTEMS PERFORMED SATISFACTORILY DURING LAUNCH TO PROVIDE THE PROPER TRAJECTORY CONDITIONS AT THE AGENA ENGINE SHUTDOWN; HOWEVER, THE FOLLOWING DISCREPANCIES WERE NOTED:

1. AGENA ENGINE START APPEARED TO BE SOMEWHAT ABNORMAL, IN THAT THE THRUST BUILD UP WAS SIGNIFICANTLY MORE GRADUAL THAN THE USUAL NEAR INSTANTANEOUS RISE. AGENA SHUTDOWN OCCURRED BY INTEGRATOR COMMAND

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AFTER A NOMINAL BURN DURATION, BUT THE SHUTDOWN TRANSIENT WAS LIKEWISE ABNORMAL AND INVOLVED AN UNUSUALLY LARGE THRUST TAILOFF. IT IS LIKELY THAT THE TWO ABNORMALITIES ARE RELATED, AND MAY REFLECT THE IMPROPER OPERATION OF ONE OF THE ENGINE CONTROL COMPONENTS. ENGINE OPERATION APPEARED TO BE NORMAL AFTER STEADY STATE CONDITIONS WERE REACHED.

2. FOR 0.5 SEC FROM 170.9 SEC TO 171.4 SEC AN ABNORMAL CURRENT SURGE OF ABOUT TWICE NORMAL VALUE AND PEAKING AT ABOUT 52 AMP IS INDICATED ON THE BATTERY CURRENT MONITOR. DURING THE SAME PERIOD THE VEHICLE BATTERY BUS VOLTAGE DROPS APPROXIMATELY 1.4 VOLTS FROM ITS NORMAL LEVEL. THE VOLTAGE AND CURRENT INDICATIONS DURING THIS PERIOD ARE SIMILAR TO THOSE EXPERIENCED AT ABOUT THE SAME TIME ON VEHICLE 1129 WHICH WERE DUE TO TURN ON OF SPECIAL PROJECTS EQUIPMENT. NO UNUSUAL CURRENT OR VOLTAGE VALUES WERE NOTED AFTER 171.4 SEC.

AT THE TIME OF SIGNAL FADE AT VTS, ALL VEHICLE SUBSYSTEMS WERE FUNCTIONING NORMALLY WITH AN ADEQUATE SUPPLY OF CONTROL GAS REMAINING AND THE ORBITAL TIMER

WAS SET AT 5428 SEC (STEP 18), IN THE RESET-ON POSITION, IN THE INCREASE MODE, AND ALTERNATE RE-ENTRY DISARM STATE.

IV. THE AEROSPACE GROUND EQUIPMENT FUNCTIONED PROPERLY TO ACCOMPLISH BOOSTER AND ORBITAL STAGE PRE-LAUNCH CHECKOUT (WITH THE FOLLOWING DISCREPANCIES NOTED:).

1. A "B" NUT FITTING ON THE AGENA HELIUM VENT QUICK DISCONNECT MALFUNCTIONED WHICH RESULTED IN LOSS OF VEHICLE HELIUM GAS. THE FITTING WAS REPLACED.

2. THE HELIUM DIFFERENTIAL PRESSURE SWITCH ON THE MAST MALFUNCTIONED AND REQUIRED REPLACEMENT.

3. A SLIGHT LEAK OCCURRED AT AN ANNIN VALVE FITTING IN THE AGENA FUEL TRANSFER SET.

4. APPARENT CAPTURE OF AGENA S-BAND BEACON BY THE DOWN RANGE SHIP CAUSED PREMATURE LOSS OF TRACK BY VTS VERLORT RADAR AT 434 SEC.

V. COUNTDOWN

VEHICLE 342/1130 WAS LAUNCHED FROM LAUNCH EMPLACEMENT 75-3, PAD 5 ON THE SECOND COUNTDOWN ATTEMPT. THE FINAL COUNTDOWN WAS INITIATED AT 1200 PDT ON JULY 20, 1962 AND CULMINATED IN LIFTOFF AT 1754:39.51 (ERASED

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ON LIFTOFF TIME ON VTS RECORDS). ONE HOLD OF 24 MIN WAS IMPOSED IN PHASE V OF TERMINAL COUNTDOWN WHEN THOR TELEMETER SET NO. 1 CEASED TO FUNCTION. AFTER EVALUATION IT WAS DECIDED TO PROCEED WITH THE LAUNCH WITH THOR TELEMETER PACKAGE NO. 2 ONLY. THE COUNTDOWN WAS RECYCLED TO START OF PHASE V. THE FIRST COUNTDOWN WAS INITIATED AT 0900 PDT ON JULY 19, 1962 AND PROCEEDED NORMALLY TO TASK 16 (AGENA PRESSURIZATION) WHEN A HELIUM LEAK OCCURRED IN THE FUEL VENT UMBILICAL. AFTER THE UMBILICAL WAS REPAIRED AND THE COUNTDOWN RESUMED HELIUM GAS COULD NOT BE LOADED INTO THE OXIDIZER TANK. THE COUNTDOWN WAS RESCHEDULED. THE PROBLEM WAS LATER FOUND TO BE DUE TO A MALFUNCTION OF DIFFERENTIAL PRESSURE SWITCH ON THE MAST. PROPELLANTS WERE LEFT ABOARD THE AGENA VEHICLE.

VI. PAD DAMAGE

PAD DAMAGE WAS NORMAL AND THE TURN-AROUND SCHEDULE CAN BE MAINTAINED.

INITIALS

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